AMSAT News Service Weekly Bulletins
Issue: ANS-186
Date: 2026-07-05
Sources: amsat-ans-2026-ans-186-weekly-hyperkitty-9d18d14355.txt

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*AMSAT *News Service *ANS-186*
July 5, 2026

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The AMSAT® News Service bulletins are a free, weekly news and information service of AMSAT, The Radio Amateur Satellite Corporation.

ANS publishes news related to Amateur Radio in Space including reports on the activities of a worldwide group of Amateur Radio operators who share an active interest in designing, building, launching and communicating through analog and digital Amateur Radio satellites.

The news feed on https://www.amsat.org publishes news of Amateur Radio in Space as soon as our volunteers can post it.

Please send any amateur satellite news or reports to: ans-editor [at] amsat.org

You can sign up for free e-mail delivery of the AMSAT News Service Bulletins via the ANS List; to join this list see: https://mailman.amsat.org/postorius/lists/ans.amsat.org/

AMSAT President Drew Glasbrenner, KO4MA, Featured on Ham Radio Workbench Podcast

AMSAT President Drew Glasbrenner, KO4MA, is the featured guest on episode 266 of the Ham Radio Workbench podcast, released June 30, 2026, and available at https://www.hamradioworkbench.com/podcast.

In a wide-ranging discussion, Glasbrenner talks with the Workbench crew about AMSAT and amateur radio in space, drawing on the operating and institutional perspective he brings as AMSAT President. The episode's show notes point listeners toward a number of accessible on-ramps to satellite work, including the WA5VJB “Cheap Yagis” wooden-boom antenna design, Elk log-periodic antennas for satellite use, and AMSAT itself at https://www.amsat.org. The hosts also note that Glasbrenner is interested in hearing from potential payload providers, and that listeners inspired to get more involved can inquire about becoming an AMSAT Ambassador.

Recent AMSAT presentations have offered a preview of the themes Glasbrenner tends to cover. In appearances over the past several months he has described AMSAT as a volunteer, educational organization dating to 1969, highlighted the continued operation of AO-7 more than five decades after

launch, and outlined the GOLF-TEE mission — a 3U CubeSat carrying a 30 kHz linear transponder, a 10 GHz high-speed experimental downlink, and improved three-axis attitude control. Listeners looking for an approachable introduction to where AMSAT is headed will find the Workbench episode a good place to start.

Give it a listen at https://www.hamradioworkbench.com/podcast.

[ANS thanks the Ham Radio Workbench podcast and Drew Glasbrenner, KO4MA, AMSAT President, for the above information]

LIMITED TIME OFFER!!!

AMSAT is offering a limited-time promotion for new and renewing members that includes a free digital copy of Getting Started with Amateur Satellites. The promotion is being offered as AMSAT begins the 2026 membership year.

[image: Getting Started]

Anyone who joins or renews their AMSAT membership during the promotional period will receive a download link for the latest edition of Getting Started with Amateur Satellites in their membership confirmation email. JOIN TODAY at https://launch.amsat.org/ <https://launch.amsat.org/> (Remember! Students join for FREE!)

MarmotSat: Student-Built Canadian CubeSat Brings Open-Source Amateur Experiments to VHF and 10 Meters

A new student-built CubeSat carrying an unusually varied amateur radio payload is set to reach orbit this month, and its team is actively inviting amateurs around the world to take part. MarmotSat, a 3U CubeSat designed and built in-house by students at the University of Victoria (UVic) Centre for Aerospace Research (CfAR), is manifested on the SpaceX Transporter-17 rideshare mission, targeted to launch from Space Launch Complex 4E at Vandenberg Space Force Base, California, no earlier than July 7, 2026, into a sun-synchronous orbit.

MarmotSat, whose name stands for Mission for Atmospheric Radio Measurements with Open-source Technology Satellite, measures the standard 3U form factor of 340 by 100 by 100 mm. It is British Columbia’s submission to the Canadian Space Agency’s CubeSats Initiative in Canada for STEM (CUBICS) program, and it also features major contributions from volunteers on the UVic Satellite Design (UVSD) engineering team. The mission has two primary objectives: to train Highly Qualified Personnel by giving undergraduate and graduate students hands-on experience designing, building, testing, and operating a spacecraft; and to support the UVic Propagation Laboratory’s research into the structure and composition of the ionosphere. Both the satellite and its ground station in Victoria were designed, assembled, tested, and operated by students, with the sole exception of the commercial CubeSpace attitude determination and control system.

The mission builds directly on the experience of ORCASat, UVic’s earlier 2U CubeSat and British Columbia’s first student-built satellite to reach orbit. ORCASat, which flew under the Canadian CubeSat Project and deorbited in July 2023, gave more than 25 full-time co-op students and over 150 part-time student volunteers direct spacecraft experience, and it flight-qualified the UHF telemetry, tracking and command scheme that MarmotSat reuses.

A rich amateur payload

For amateurs, the interesting part of MarmotSat is its payload, which marks the debut of the Modular CubeSat Radio (MCR), an open-source, GNU Radio-compatible software-defined radio platform developed by the team.

Built around a low-power HF SDR derived from the Hermes Lite 2, the MCR for this mission includes the SDR, an onboard computer, a camera, HF and VHF RF front ends, and simple wire antennas: a base-loaded half-wave tape-measure whip for HF and a half-wave tape-measure dipole for VHF.

The amateur payload supports four distinct experiments, and the team stresses that it is available to all properly licensed operators worldwide. Because several functions share the same frequencies, the experiments are mutually exclusive and never run simultaneously. The published frequencies are a VHF digipeater uplink and downlink on 145.875 MHz; a CW telemetry beacon on both 145.875 MHz and 29.410 MHz; and a DVB-S2 digital video beacon and a linear-frequency-modulation sounding downlink, both on 29.410 MHz in the 10-meter amateur satellite allocation. A separate telemetry, tracking and command subsystem operates on 436.125 MHz; that UHF link is kept independent of the amateur payload for reliability and is not intended for general amateur use, though its telemetry may be receivable in the Pacific Northwest.

The four amateur experiments give operators a range of ways to participate:

The CW telemetry beacon transmits spacecraft health data on HF and VHF at 15 words per minute, sending the callsign VA7UVS in plain text followed by encoded telemetry. It can be copied by ear or with digital aids such as CW Skimmer, and requires only a modest 10-meter or VHF antenna and a CW-capable receiver or a low-cost SDR.

The VHF digipeater is a two-way store-and-forward and real-time communication experiment intended to work like the well-known IO-117 (GreenCube) digipeater, but on VHF rather than UHF. The team notes it is designed to be compatible with the hardware and software amateurs already use for GreenCube operation.

The DVB-S2 digital video experiment lets amateurs receive live imagery from the onboard camera as a digital television signal on 10 meters, following the QO-100 wideband operating conventions. It is a deliberately challenging, noise-sensitive experiment; the team recommends it only for operators at quiet rural locations and only on passes above about 35 degrees elevation.

The citizen-science experiment transmits a linear-frequency-modulated waveform, similar to CODAR, on 10 meters. Amateurs can record these transionospheric soundings and submit them to a central repository, contributing to the Propagation Lab’s study of how the ionosphere’s structure may correlate with terrestrial phenomena including earthquakes and human-caused climate change.

In keeping with the mission’s open-source philosophy, the team has released supporting designs and tools to the community, including a 10-meter turnstile antenna suitable for space reception and a GNU Radio flowgraph for decoding the DVB-S2 video, with recording-format and data-submission details for the citizen-science experiment to be published around launch.
Getting involved

The MarmotSat team is inviting experienced stations to help commission the amateur experiments and is offering selected operators early access to the payload; amateurs interested in taking part are asked to contact the team through the UVic Propagation Laboratory with a brief description of their capabilities. Amateur radio information for the mission, including the frequency table, equipment recommendations, and experiment details, is maintained on the Propagation Lab’s satellite page at https://www.propagationlab.ca/satellite/, and general mission information is available at https://www.marmotsat.ca.

As always, amateurs planning to receive MarmotSat should watch for orbital

elements and any updates to the experiment schedule after deployment, which the team expects to publish once commissioning is complete in the third quarter of 2026.

[ANS thanks the University of Victoria Centre for Aerospace Research, the UVic Propagation Laboratory, and the MarmotSat team for the above information]

AMSAT Remove Before Flight Key Tags Now Available *Yes, These are the Real Thing!*

* <https://www.zazzle.com/amsat_car_flag-256716714380264543>* *Your $20 Donation Goes to Help Fly a FoxPlus Satellite Includes First Class Postage (Sorry – U.S. Addresses Only) Order Today at https://www.amsat.org/product/amsat-remove-before-flight-keychain <https://www.amsat.org/product/amsat-remove-before-flight-keychain/>*

OSCARLOCATOR Web Generator Turns Live Elements Into Printable Tracking Sheets

Following last week's introduction of the browser-based OSCARLOCATOR Web Simulator, a companion tool is now online that closes the loop between the on-screen simulator and the classic paper tracker. The OSCARLOCATOR Web Generator, at https://oscarlocator-pdf.n8hm.radio, produces printable base-map, range-circle, and path-arc sheets – the physical components of the traditional OSCARLOCATOR – as vector PDFs generated entirely in the browser.

Like the simulator, the generator is the work of AMSAT Executive Vice President Paul Stoetzer, N8HM, and produces the same vector output as the OSCARLOCATOR export in his OrbitDeck <https://github.com/prstoetzer/OrbitDeck> desktop application. Nothing is uploaded to a server: the tool fetches only current AMSAT GP orbital elements and, if the operator asks, their location. It runs offline once loaded.

The OSCARLOCATOR Web Generator, showing the station, satellite, and sheet-option controls on the left and a live preview of the base map for AO-73 on the right, along with the orbital readout and PDF download and print controls

To build a set of sheets, the operator sets a station by Maidenhead grid square, by latitude and longitude, or via browser geolocation, then selects a satellite from a list populated automatically from AMSAT's GP element data. The map projection can be a polar azimuthal-equidistant sheet – chosen automatically for the northern or southern hemisphere, or forced to North or South – or a QTH-centered azimuthal map. The output can be produced as a two-sheet set, pairing a base map with the range circle drawn at the operator's station plus a separate path-arc transparency, and an option keeps the overlay transparencies free of text so all the how-to-use instructions live on the base map. An advanced panel allows manual entry of orbital elements – inclination, mean motion, eccentricity, argument of perigee, and RAAN – for cases where the operator wants to plot a specific orbit by hand, and provides an optional CORS-proxy override for fetching the AMSAT bulletin data.

Coastlines are drawn from Natural Earth 110m data. The sheets must be printed at 100% / actual size so that the base map and the transparency overlays register correctly when stacked. The result is a genuine, working paper tracker keyed to current elements – a satisfying bridge between the pre-computer era of satellite operating and modern on-demand data.

The OSCARLOCATOR Web Generator is available now at https://oscarlocator-pdf.n8hm.radio, and serves as a companion to the

OSCARLOCATOR Simulator at https://oscarlocator.n8hm.radio.

[ANS thanks Paul Stoetzer, N8HM, AMSAT Executive Vice President, for the above information]

The 2026 President's Club Coin is Now Here! *Help Support GOLF and FoxPlus.*

Annual memberships start at only $120

Join the AMSAT President’s Club today and help *Keep Amateur Radio in Space!* *https://www.amsat.org/join-the-amsat-presidents-club/* <https://www.amsat.org/join-the-amsat-presidents-club/>

Recent IARU Amateur Satellite Frequency Coordination Activity

Every amateur satellite that expects to transmit in the amateur-satellite service bands is asked to obtain a frequency coordination from the International Amateur Radio Union (IARU) before launch. The IARU Satellite Frequency Coordination Panel reviews each request, checks the proposed frequencies against existing band plans and other coordinated missions, and — where the mission fits the definition of the amateur-satellite service and names a licensed amateur as the responsible operator — recommends frequencies intended to minimize mutual interference. The running status of applications is maintained on the AMSAT-UK-hosted status pages at https://iaru.amsat-uk.org/index.php, and it is worth a periodic look for operators who like to know what may be arriving on the bands.

Over roughly the past month the panel's public status list has continued to turn over, with the two most recently updated entries both coming from long-running university programs in Europe.

The most recent update, dated June 23, 2026, is UPMSat-3, developed by the Instituto Universitario de Microgravedad “Ignacio Da Riva” (IDR) of the Universidad Politécnica de Madrid (UPM). UPMSat-3 continues a program that reaches back to UPMSat-1 in 1995 and UPMSat-2 in 2020. The new spacecraft is a roughly 22-kilogram microsatellite — smaller than its predecessors but a substantial step up in capability — whose primary science mission is imaging of the cosmic microwave background, alongside a suite of low-cost in-orbit technology demonstrations for Spanish companies and research centers and continued work on attitude determination and control algorithms. UPMSat-3 has been selected to fly on the Isar Aerospace Spectrum launcher from Andøya, Norway, and the program continues to build hands-on engineering experience for students in UPM's Master's Degree in Space Systems (MUSE).

The panel's prior update, dated June 4, 2026, is FramSat-1.5, a 3U CubeSat from the Norwegian University of Science and Technology (NTNU) and the student organization Orbit NTNU. FramSat is a scaled evolution of Orbit NTNU's earlier SelfieSat, and the FramSat effort is closely tied to the ambition of launching “the first satellite from Norwegian soil” from the new spaceport at Andøya. FramSat carries a UHF amateur downlink — SatNOGS lists a 435.141 MHz 9k6 FSK (AX.25/G3RUH) transmitter marked IARU coordinated — supporting telemetry and an experimental sun-sensor payload built by students.

Both missions are representative of the bulk of IARU coordination traffic: student- and university-led educational spacecraft, most in low Earth orbit, that give the next generation of engineers direct experience with spacecraft communications while adding new signals for the amateur community to hunt. Developers planning a mission are reminded that coordination should be requested as early in the design process as possible, while frequencies can still be changed in response to the panel's

recommendations.

Application forms and contact information are available at https://www.iaru.org/reference/satellites/, and the coordination status list is at https://iaru.amsat-uk.org/index.php.

[ANS thanks the IARU Satellite Frequency Coordination Panel for the above information]

[image: SDR Gen 2 Ad - 2026]

Amateur Radio Payloads Aboard SpaceX Transporter-17

SpaceX is targeting Tuesday, July 7, 2026, for the launch of its Transporter-17 dedicated rideshare mission, with a 95-minute window opening at 07:10 UTC (12:10 a.m. PDT) from Space Launch Complex 4E at Vandenberg Space Force Base, California. A backup opportunity is available on July 8 at the same time. The Falcon 9 will carry a large collection of small satellites — deployment provider Exolaunch alone has manifested 49 spacecraft on the flight — into a sun-synchronous orbit, and among them are several carrying amateur radio payloads. As with all Transporter missions, deployments will be spaced out over a period of time after launch rather than occurring all at once, and it may be days or weeks before individual satellites are commissioned and heard.

As of this writing the full manifest is still being cataloged by the amateur community, and operators coordinating reception through the Libre Space Foundation's SatNOGS network are working to add the new spacecraft and their transmitters to the SatNOGS database. Amateurs are encouraged to help by submitting satellite and transmitter suggestions. The confirmed amateur payloads with IARU-coordinated frequencies are summarized below; more may be identified as the manifest firms up.

MarmotSat

MarmotSat, the 3U CubeSat built by students at the University of Victoria Centre for Aerospace Research, is the headline amateur payload on the flight and is the subject of a separate feature in this issue. It carries the debut of the open-source Modular CubeSat Radio and supports four amateur experiments: a VHF digipeater and CW telemetry beacon on 145.875 MHz, a CW telemetry beacon and a DVB-S2 digital video beacon on 29.410 MHz, and a linear-frequency-modulation ionospheric-sounding downlink on 10 meters for amateur citizen scientists. Its IARU-coordinated downlinks are 29.410 MHz, 145.875 MHz, and 436.125 MHz (TT&C). The team hopes MarmotSat will become Canada's first official OSCAR-designated satellite. See the full article elsewhere in this bulletin for details and for how to take part in commissioning.

Maveric

Maveric is a 3U CubeSat from the University of Southern California's Space Engineering Research Center, with Anthony Planinac, K6FCF, as the responsible operator. The satellite carries two identical commercially available multispectral imagers, each of which will photograph an LCD screen positioned in front of the camera with the Earth and sky as a backdrop. The mission's goals are a mix of science and technology development, including magnetic-field measurements and the testing of new algorithms for real-time onboard processing of optical imagery.

For amateurs, Maveric uses a 9,600 bps UHF downlink employing GMSK modulation with Golay framing. The IARU has coordinated a downlink on 437.575 MHz. The satellite is bound for an approximately 590 km polar orbit. Reception reports and telemetry decodes from the amateur community are, as always, valuable to the mission team during commissioning.

Other payloads of note

Also aboard Transporter-17 is LabSat IoT, a 34-cm CubeSat developed by the Faculty of Engineering at the University of Palermo in Argentina, together with COPITEC and FUNDETEC. LabSat IoT is a technology-demonstration platform for satellite Internet-of-Things and cellular (NTN) connectivity to remote areas, using in-flight-reconfigurable software-defined radios. Its experiments operate in IoT and mobile-satellite bands rather than the amateur-satellite service, so while it is a noteworthy student-built spacecraft on the same flight, it is not an amateur radio mission and does not carry an IARU-coordinated amateur payload.

The mission also includes numerous commercial and government smallsats — among them Firesat-1, -2, and -3, and a wide range of Earth-observation and technology-demonstration spacecraft from more than twenty countries — that do not use amateur frequencies.

Operators wishing to receive the amateur payloads should watch for orbital elements to be published after deployment and match them to each spacecraft using the beacon signals. Frequency and status details for coordinated satellites can be confirmed on the IARU coordination status pages at https://iaru.amsat-uk.org, and reception can be coordinated through the SatNOGS network. ANS will report on successful deployments and the opening of the new satellites' amateur payloads as information becomes available.

[ANS thanks SpaceX, Exolaunch, the IARU Satellite Frequency Coordination Panel, the University of Victoria, the University of Southern California, and the Libre Space Foundation for the above information]

AMSAT at Moon Day, Dallas — Saturday, July 18, 2026

AMSAT Ambassador Tom Schuessler, N5HYP, writes:

“Hello AMSATters in and around the Dallas/Fort Worth area.

“We are coming up quickly toward the annual STEM event held by the Frontiers of Flight Museum at Dallas Love Field called ‘Moon Day.’ This year it will be Saturday, July 18th. Hours are from 10 AM to 4 PM. Always held around the time of the Apollo 11 moon landing, it is a fun public event showcasing astronomy, space science and technology, suitable for young and old alike. Last year it drew almost 1500 visitors. See https://flightmuseum.com/events/moonday/ for more information.

“I have been representing AMSAT and amateur radio satellites at Moon Day for many years now. We have an exhibit table right next to the Dallas Amateur Radio Club where we show off the AMSAT CubeSat Simulator, the Fox CubeSat engineering model, talk about orbits and footprints and this year, hope to have materials to hand out for kids from the AMSAT youth initiative, BuzzSat. Of course we feature the ISS as a great example of amateur radio in space. The CubeSat Simulator gives the ability to have a ‘Get your picture taken by a satellite’ photobooth experience. We also try to offer several voice satellite passes out in the parking lot to show off amateur radio space communications.

“Besides all the regular exhibits, attendees can attend various seminars and hear talks by astronauts.

“The museum has wonderful exhibits, including the Apollo 7 command module. This year there is a new exhibit on the Hindenburg which looks very interesting.”

[ANS thanks Tom Schuessler, N5HYP, AMSAT Ambassador, for the above information]

Changes to AMSAT TLE Distribution for July 3, 2026

Two Line Elements or TLEs, often referred to as Keplerian elements or keps in the amateur community, are the inputs to the SGP4 standard mathematical model of spacecraft orbits used by most amateur tracking programs. Weekly updates are completely adequate for most amateur satellites. TLE bulletin files are updated daily in the first hour of the UTC day. New bulletin files will be posted immediately after reliable elements become available for new amateur satellites. More information may be found at
https://www.amsat.org/keplerian-elements-resources/
<https://www.amsat.org/keplerian-elements-resources/>.

There are no changes to this week's TLE distribution.
General Perturbations Data Support

AMSAT is pleased to announce that modern forms of what are called General Perturbations data are being disseminated via modern formats including JSON, XML and KVN at https://newark192.amsat.org/gpdata/current/. The reason this change is being made is that we are running out of 5-digit catalog numbers and the TLE format is not viable for satellites launched after July of this year. See https://celestrak.org/NORAD/documentation/gp-data-formats.php for details.

These data are presently considered in beta test for the next two months while hosted on the test server newark192.amsat.org, and we are very open to community feedback at webmaster at amsat.org. Testers may experience outages and errors while we make improvements. We intend to put this into production on our main web server in July as we expect that satellites launched after this summer will require one of the new formats to accommodate longer object numbers. AMSAT will continue to publish TLE bulletins for satellites launched before July 2026 indefinitely.

[ANS thanks Joe Fitzgerald, KM1P, AMSAT Orbital Elements Manager, for the above information]

Buying from DX Engineering?
Add AMSAT's *Getting Started With Amateur Satellites* to your order.
<https://www.dxengineering.com/parts/amt-satellites>Available for $30 from DX Engineering (free shipping on most orders over $99)
https://www.dxengineering.com/parts/amt-satellites

ARISS News

Amateurs and others around the world may listen in on contacts between amateurs operating in schools and allowing students to interact with astronauts and cosmonauts aboard the International Space Station. The downlink frequency on which to listen is 145.800 MHz worldwide.

No contacts currently scheduled

Many times, a school makes a last-minute decision to do a Livestream or runs into a last-minute glitch requiring a change of the URL, but we at ARISS may not get the URL in time for publication. You can always check https://live.ariss.org/ to see if a school is Livestreaming.

As always, if there is an EVA, a docking, or an undocking; the ARISS radios are turned off as part of the safety protocol.

The crossband repeater remains configured in the Columbus Module (145.990 MHz up {PL 67} & 437.800 MHz down). If a crewmember decides to pick up the microphone and turn up the volume, you may hear them on the air—so keep listening, as you never know when activity might occur.

Kenwood D710GA in the Zvezda Service Module – Call sign RSØISS. Please note we're still in the process of troubleshooting and testing this radio. APRS

is currently active on 437.825 MHz. Feel free to check out status reports at https://ariss-usa.org/ARISS_APRS/.

Ham TV is currently transmitting a test signal at 2395.00 MHz.

Note, all times are approximate. It is recommended that you do your own orbital prediction or start listening about 10 minutes before the listed time.

The latest information on the operation mode can be found at https://www.ariss.org/current-status-of-iss-stations.html

The latest list of frequencies in use can be found at https://www.ariss.org/contact-the-iss.html

[ANS thanks Charlie Sufana, AJ9N, one of the ARISS operation team mentors for the above information]

Want to fly the colors on your own grid expedition? Get an AMSAT car flag and other neat stuff from our Zazzle store <https://www.zazzle.com/store/amsat_gear>!

25% of the purchase price of each product goes towards Keeping Amateur Radio in Space

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AMSAT Ambassador Activities

[image: AMSAT Ambassador News Logo]

AMSAT Ambassadors provide presentations, demonstrate communicating through amateur satellites, and host information tables at club meetings, hamfests, conventions, maker faires, and other events.

July 18, 2026

*Moon Day*Frontiers of Flight Museum
6911 Lemmon Avenue
Dallas, TX 75209
https://flightmuseum.com/events/moonday/
N5HYP

October 8-11, 2026
44th AMSAT Space Symposium and Annual Membership Meeting
Crowne Plaza JAX Airport
14670 Duval Road
Jacksonville, FL 32218
Details to follow

Interested in becoming an AMSAT Ambassador? AMSAT Ambassadors provide presentations, demonstrate communicating through amateur satellites, and host information tables at club meetings, hamfests, conventions, maker faires, and other events. For more information go to:
 https://www.amsat.org/ambassador/ <https://www.amsat.org/ambassador/>

[ANS thanks Bo Lowrey, W4FCL, Director – AMSAT Ambassador Program, for the above information]

Satellite Shorts from All Over

+ AMSAT Field Day 2026 ran June 27–28 alongside the ARRL event. Operators enjoyed access to more than 10 transponders/repeaters. FM voice limited to one QSO per bird (including ISS); linear birds (AO-7, RS-44, etc.)

supported multiple contacts. The ISS repeater was noted as one of the busiest “stations” during Field Day. Many operators reported successful satellite QSOs. Logs due to KK5DO by July 28. See https://www.amsat.org/field-day/ for submission details (ANS thanks AMSAT for the information)

+ Fuji-OSCAR 29 (FO-29 / JAS-2) continues to reward operators during its extended full-sunlight season. Because the Japanese satellite's onboard batteries failed years ago, its V/U inverting linear transponder operates only when the solar panels are illuminated. The current full-sunlight period runs through mid-November 2026, during which continuous transponder operation on illuminated passes should be possible. The transponder is SSB/CW only (uplink 145.900–146.000 MHz LSB, downlink 435.800–435.900 MHz USB). Operators are reminded to keep uplink power to the minimum needed and to ensure the downlink signal does not exceed the CW beacon level, so the limited resource can be shared by as many stations as possible worldwide. (ANS thanks AMSAT and JARL for the above information)

+ PARUS-T2 and RIDU-Sat 1 launched June 23 at 2125 UTC; both appear dead or non-functional per latest reports. PARUS-T2 carried APRS on 145.825 MHz. Other active/testing birds include HADES-SA (SO-127) with SSDV/CODEC2/FSK, Lilium-4 (APRS + V/U repeater), and RS83S (Lobachevsky) sending images on 436.320 MHz with experimental X-band. Upcoming: UNNE-1B (HADES-E2) targeted for October 2026 with FM voice, FSK, APRS, and CODEC2 capabilities. (ANS thanks AMSAT Upcoming Satellites <https://www.amsat.org/upcoming-satellites/> for the information)

+ NASA astronauts Chris Williams (EV1, red stripes) and Jessica Meir (EV2) conducted a ~6.5–7 hour spacewalk on June 30 starting ~8:35 a.m. EDT / 1235 UTC. They successfully replaced a malfunctioning wrist joint on the Canadarm2 robotic arm (the joint had shown elevated motor current on May 27). This was Williams’ second and Meir’s fifth spacewalk. Live coverage was widely available on NASA+, YouTube, and other platforms. Preview conference held June 25. ARISS systems were powered down around the EVA and restored July 1. (ANS thanks NASA and ARISS for the information)

+ SpaceX conducted several Falcon 9 Starlink missions in the past week, including a West Coast launch on June 24 and additional missions on/around June 28. More launches are scheduled for early July. These continue rapid expansion of the Starlink broadband constellation. (ANS thanks SpaceX for the information).

+ A June 24 report highlighted that NASA’s aging infrastructure at Kennedy Space Center and other facilities will require more than $1 billion in upgrades to safely support the cadence of Artemis lunar missions. The watchdog emphasized risks to launch schedules and safety if investments are not made. (ANS thanks Space.com <https://www.space.com/space-exploration/artemis/nasas-aging-infrastructure-cant-handle-artemis-launches-without-usd1-billion-in-upgrades-watchdog-warns> for the information)

+ Astronomers released one of the largest and most detailed images of the Milky Way yet, containing over 60 million stars and revealing dozens of exoplanet systems. The image provides unprecedented data for studying galactic structure and stellar populations. (ANS thanks Space.com <https://www.space.com/astronomy/galaxies/this-is-the-largest-and-most-detailed-image-of-our-milky-way-with-over-60-million-stars-and-50-exoplanet-systems> for the information)

+ NASA and partners updated the 2026 ISS manifest: Soyuz MS-29 launches July 14 carrying NASA astronaut Anil Menon and two Roscosmos cosmonauts. SpaceX Crew-13 moves to mid-September. CRS-35 (SpaceX) and NG CRS-25 targeted for fall/winter with significant cargo including Roll Out Solar Arrays. (ANS thanks NASA for the information)

Join AMSAT today at https://launch.amsat.org/

In addition to regular membership, AMSAT offers membership to:

- Societies (a recognized group, clubs or organization).
- Students are eligible for *FREE* membership up to age 25.
- Memberships are available for annual and lifetime terms.

Contact info [at] amsat.org for additional membership information.

73 and remember to help Keep Amateur Radio in Space!

This week's ANS Editor,

Paul Stoetzer, N8HM
n8hm [at] amsat.org <http://amsat.org>

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